

## From the DMV

### **Safety and Emission Inspection Fee Change**

The State of Rhode Island and The Division of Motor Vehicles would like to thank all Inspection Stations and Inspectors for their patience and cooperation in the successful transition to the new Safety and Emissions Fee structure as of July 1, 2014.

As part of the RI Official Inspection Station/Inspector network and the Safety and Emission Inspection Program, we sometimes need to work together in different ways to ensure that we provide safe roadways as well as safe and clean vehicles for all Rhode Islanders. The new Highway Transportation Fund will help provide for this.

We realize that the increased cost of the batches of 15 test authorizations (TAs) may place a burden on some stations that do not use them in a timely manner. Therefore, in cooperation with Opus Inspection we have created a method for stations to have the option of purchasing TAs in lots of 5 as opposed to 15. Stations may take advantage of this option by registering and making the purchase at [www.opusinspection.com](http://www.opusinspection.com). If you would like to take advantage of this method of purchase and need assistance, please feel free to contact the Opus Inspection Office or the Safety and Emission Control Office with any questions you may have.

### **Alternate Inspection Approval Procedure**

On occasion, vehicles for which the registration may have been suspended, cancelled, or denied may need to be inspected for safety. In order to issue a valid registration, proof is needed that the vehicle under consideration is safe for highway use.

The State will accept an ALTERNATE INSPECTION APPROVAL REPORT properly signed and stamped by a certified inspector of an official inspection station after the vehicle has been examined WITHIN THE CONFINES OF THE GARAGE PROPERTY and found to be safe to be operated on the public highways.

Alternate Inspection Approval Reports should only be used in the following instances:

- Unregistered vehicles that have been denied registration due to an inspection related suspension;
- Vehicles for which Law Enforcement has seized the plates and registration certificate due to an inspection related suspension;
- Vehicles with expired registrations that have been denied registration renewal due to an inspection related suspension; and
- When instructed to by the Safety and Emission Control Office.

Please remember that by signing an Alternate Inspection Approval Report an inspector is **approving the vehicle for safety inspection** and will be held responsible for the condition of the safety equipment of the vehicle the same as if an inspection sticker was issued.

Volume 3, Issue 2

August 1, 2014

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## The Technician's Bench

### Meet the most "popular" DTC: P0420

Data from OBDII tests reveals that vehicles failing for the Diagnostic Trouble Code (DTC) P0420 Catalytic Efficiency Below Threshold (Bank 1) are not passing retests at a higher rate than other DTC codes. While failures for DTC P0430 Catalytic Efficiency Below Threshold (Bank 2) is less frequent, the diagnostic strategy for repairs for either DTC is similar. The most common reason for these vehicles failing retests is that technicians may be automatically replacing the catalytic converters rather than performing a complete diagnostics to find the root of the problem.

To better understand the conditions that cause the trouble code to be present, it can be helpful to look at what the monitor is checking during vehicle operation. The vehicle's OBDII system monitors a catalyst's efficiency by comparing the switching activity of the upstream and downstream oxygen sensors in the exhaust. The upstream oxygen sensor in the exhaust manifold reflects the condition of exhaust gases as they exit the engine. The downstream oxygen sensor, in or behind the catalytic converter, reflects the condition of the exhaust as it passes through the converter. If the catalyst monitor finds too much switching activity in the downstream O2 sensor after the converter is hot while the vehicle is being driven, it may set a P0420 code and turn the check engine light on.

So does this mean that the catalytic converter is no longer functioning properly? Not always, but the challenge is to determine whether the cause is a bad catalytic converter or another reason that is causing this monitor to activate. Some possible reasons for activating this code are as follows:

- ◆ Damaged pre-cat exhaust manifold/catalytic converter/pre-cat exhaust pipe including the flex pipe
- ◆ An oxygen sensor(s) not functioning properly
- ◆ High fuel pressure
- ◆ The engine coolant temperature sensor not working properly
- ◆ A cylinder misfiring

So where do you begin to narrow the cause of this code? BEFORE you replace the converter, look at the following:

**Exhaust System:** You should also inspect the exhaust system and converter for leaks. "False" air can enter the exhaust through leaks and upset the O2 sensor readings, causing them to read leaner than normal. Colorado State University developed an effective procedure for checking the efficiency of catalytic converters through the use of feed gases.

Verify that the vehicle's exhaust system meets OEM requirements. If modifications have been made, they could activate the catalytic converter efficiency codes. Inspect the vehicle's exhaust system to verify that there are no pre-cat leaks. False air entering the exhaust through the pre-cat leaks can bias the O2 sensors.





## Meet the most "popular" DTC: P0420 From page 2

In vehicles with multiple catalytic converters, some of the catalysts downstream are not monitored and would not have an impact on the emissions failure. It is important to identify what catalysts are being monitored and which are related to the DTC prior to repairs.

**O2 Sensors:** If the downstream O2 sensor is bad (heater circuit not working, loose or corroded wiring connector, contaminated sensor element, etc.), the OBD II system should detect the fault and set an oxygen sensor code. The same goes for a bad upstream O2 sensor. In either case, the presence of an O2 sensor code could prevent the catalyst monitor from running and setting a false P0420 code.

Verify the operation of each oxygen sensor(s) with a scan tool or software. If you see normal switching action in both sensors shortly after the engine is started, the O2 sensors are working properly. Look for the O2 sensor voltage switching back and forth between rich (> 0.8 volts) and lean (< 0.3 volts.)

**Fuel Pressure:** High fuel pressure could be the cause of a DTC P0420 which causes the catalytic converter to load up with hydrocarbons. Check the fuel pressure at idle as well as under load to determine if the fuel pressure is within manufacturer specifications. Also check the fuel pressure regulator, injectors and O-rings for leaks.

**Coolant Temperature:** If there is a bad coolant temperature sensor, the vehicle could remain in open loop. This would cause the catalytic converter to overload with hydrocarbons.

**Cylinder Misfiring:** While you might expect a rich H02S in the case of an ignition-related misfire, there is also a large amount of unburned oxygen, since no combustion is taking place in the misfiring cylinder.

When approaching the diagnostics on a vehicle that has a P0420 code, narrowing down the causes is an important first step. Check to see if the vehicle has any Technical Service Bulletins related to this code. In some cases, a "re-flash" of the engine computer may be required if the vehicle has a history of being overly sensitive with the catalyst monitor.

## Top 10 DTCs

DTC	Description	Percent
P0420	Catalyst System Efficiency Below Threshold (Bank 1)	5.53
P0300	Random/Multiple Cylinder Misfire Detected	4.22
P0171	System Too Lean (Bank 1)	4.17
P0442	Evaporative Emission Control System Leak Detected (Small Leak)	3.7
P0455	Evaporative Emission Control System Leak Detected (Gross Leak)	3.15
P0174	System Too Lean (Bank 2)	2.31
P0401	Exhaust Gas Recirculation Flow Insufficient Detected	2.17
P0141	O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)	2.03
P0440	Evaporative Emission Control System Malfunction	2.02
P0301	Cylinder 1 Misfire Detected	1.87



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State of Rhode Island



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## Enforcement News

For program  
information  
visit our  
Rhode Island  
website at:  
Rlinspection.org

### ***Louisiana: Gonzales area business owners accused in auto inspection scheme.***

State Department of Environmental Quality criminal investigators booked Yolande and Chad Ledet, owners of Terry's Exxon, into East Baton Rouge Parish Prison on dozens of counts of filing false public documents. They stand accused of issuing bogus inspection stickers on 94 occasions for vehicles that had previously failed emissions inspection tests. Affidavits say the Ledets issued the fraudulent stickers between mid-2010 and late 2012, and that dozens of the vehicles were quickly sold by a neighboring used car business, Ledet Auto Sales. The owner of the used car business, Scott Ledet, says he is not related to Chad and Yolande Ledet despite the similarity of their last names, nor did he have any knowledge of the activities being investigated by state authorities. He is not named in the affidavit. *The Advocate (Baton Rouge, LA)*

[Link to article](#)

### ***New York: Sting busts 8 vehicle inspectors at 7 Bronx auto shops.***

The 8 inspectors were arrested and accused of conducting more than 13,000 fraudulent vehicle safety and emission inspections between December 2012 and February 2013. Cars likely to fail were simply hooked up to a second vehicle that would pass the test, a practice known as "clean-scanning." In exchange for a passing sticker, motorists were charged a fee of \$150. A normal sticker costs \$37.

*"These individuals were trusted to perform state-required inspections specifically aimed at keeping unsafe cars off the road. Instead of performing safety inspections, they took advantage of their expertise and cheated the system,"* Attorney General Eric Schneiderman said.

While garage owners face fines, the busted inspectors face prison time. The defendants are all charged with criminal possession of a forged instrument in the Second Degree which carries a maximum sentence of 7 years in prison. Related charges were also filed. *New York Post*

[Link to article](#)

### ***Texas: Houston mechanic arrested on second-degree felony charges.***

Harris County constables arrested Larry Charles Porche, 62, a mechanic at Houston's Best Service Center, on two charges of tampering with a government record, a second-degree felony. According to the Harris County Pct. 4 Constable Emissions Task Force, the service center may have performed over 930 fraudulent inspections since November 2013, and investigators seized two vehicles and three emissions analyzers as evidence. Substituting a passing vehicle for a vehicle likely to fail the emissions test, or clean-scanning, appears to be the mechanism used to commit the alleged offenses, for which the perpetrator was likely paid \$80 to \$100 for each fraudulent inspection. Porche is out on \$10,000 bond. The business remains under investigation. *Chron.com (Houston Chronicle)*

[Link to article](#)





## At Your Service....

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State of Rhode Island



# OPUS INSPECTION



Opus Inspection  
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## From the DMV

### Chief's Letter Announces Equipment Upgrades

Letters have been sent out to all RI Safety and Emission Program participants announcing equipment upgrades intended to preserve the integrity of the testing process. The letters, signed by Douglas Staradumsky, Chief of Motor Vehicle Safety and Emissions Control, have been distributed to nearly 300 stations in the inspection network.

While Chief Staradumsky emphasizes that "the vast majority of the inspection facilities and inspectors perform inspections properly and provide a great public service keeping our roads safe and our air clean," the upgrades are needed to address the threat from the minority that engage in fraudulent testing practices.

The solution will be the implementation of "equipment upgrades to enable video monitoring of inspections as well as a secure way of verifying the identity of the inspector logged into the analyzer and performing the tests."

The proposed video upgrades will consist of a digital camera and digital fingerprint reader that will be attached to the analyzer equipment. As explained in an Equipment Upgrade Q and A (see related story below), the equipment is only intended to document inspections. Video records will only be accessible by senior DMV officials, high-level Opus Inspection staff, and the station itself via a request through the DMV. The upgrades are in alignment with practices common throughout the I/M industry.

Stations will be contacted on an individual basis to schedule installation of the new upgrades. Network participants are directed to contact Opus Inspection or the DMV Motor Vehicle Safety and Emission Control Office with any questions.

### Q & A Addresses Common Upgrade Questions

The recent equipment upgrade announced by the DMV (see story above) is likely to raise a few questions. Opus Inspection provides answers in the Q & A session below.

**Q:** What new equipment will I be getting?

**A:** This equipment upgrade consists of a digital camera and a digital finger print reader. Both devices attach to your analyzer.

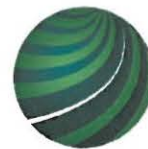
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October 1, 2014

**Upgrade  
Q & A:**

***"..several  
states have  
used  
cameras  
and  
fingerprint  
readers for  
years."***

**From the DMV: Upgrade Q & A (continued from page 1)**

**Q: Who is watching me?**

*A: No one will be watching you. The recorded video will be stored on YOUR analyzer and only accessible by senior DMV officials, high-level Opus staff and stations upon request through DMV. This video will only be used to prove guilt or innocence when a test is deemed suspicious.*

**Q: When does the camera begin filming?**

*A: The camera automatically turns on when the inspection begins and automatically turns off when the inspection is finished. It is only on during inspections.*

**Q: Is RI the first state Inspection program using cameras and fingerprint readers?**

*A: No, in fact several states have used cameras and fingerprint readers for years.*

**Q: Can anyone else see my fingerprint?**

*A: No they cannot. In fact, your fingerprint is not stored on the database. The fingerprint reader matches your print to an alphanumeric code unique to you. The database stores this code and not the actual image of your fingerprint.*

**Q: What is the purpose of the fingerprint scanner?**

*A: It provides positive identification of each inspector performing a test. Fingerprint scanners ensure that only licensed inspectors have access to the analyzer.*

**Q: Is the fingerprint reader difficult to use?**

*A: No, in fact it is very easy to use. Our technicians will train you how to use it.*

**Q: Will these equipment upgrades cost me anything?**

*A: The equipment upgrades cost you nothing.*

**Q: What does the camera view?**

*A: The camera will be aligned to only view the inspection bay. It will see the analyzer, the front of the vehicle inspected and the inspector.*

**Q: Are these equipment upgrades covered by the station service agreement?**

*A: Yes they are completely covered.*

**Q: Can I request to see an inspection video from my station?**

*A: Yes you can. The cameras protect you from false motorist damage claims. You may request a video by calling or emailing DMV and filing a records request form specifying the inspection you want to see and the reason why. DMV will grant permission, at their discretion, and send a video link to you.*



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## Program News

### ***New Program Manager Jack Pierce Brings In-Depth Perspective to Rhode Island***

Jack Pierce joined the Opus Inspection Rhode Island team on August 1, 2014 as Program Manager. Jack brings more than 20 years of I/M industry experience to the program, 16 of which have been with Opus Inspection. He has managed no less than five state programs during his accomplished career.

Coming to Rhode Island is a homecoming of sorts for the New Englander. Jack earned his Bachelor's degree at the College of the Holy Cross in Worcester, Massachusetts, and fulfilled several roles in state government, including senior manager at the MA Registry of Motor Vehicles where he provided oversight of the state's inspection program.

Jack's keen perception of program management issues owes much to his experience in state agencies, but also to his in-depth knowledge of inspection station operations. Jack has served as executive director of the New England Service Station Association, a nonprofit trade association of inspection stations.

Jack is excited about his opportunity to provide outstanding service to the state, auto service community, and motoring public of Rhode Island.



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State of Rhode Island  
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### ***Acting Chief Douglas Staradumsky Accepts Permanent Appointment***



Doug Staradumsky

Douglas Staradumsky has spent his career as an automotive professional working as an ASE L1 Certified Technician at Rhode Island auto repair facilities and then joining the RI DMV as a field investigator. This broad based experience has provided Doug with valuable insights into all viewpoints of the Rhode Island Emissions and Safety Testing Program; the inspectors, motorists, and state administrators. He has learned first-hand the best practices for making things work.

Doug began his automotive career as an automotive technician in 1988. He joined the RI DMV in 2005 as an Auto Safety and Emission Control Inspector. Until 2011, Doug supervised the operations of the state inspection garage, including challenge inspections and complaint investigations. Doug continued to rise through the ranks, being promoted to Assistant Chief in 2011. In January of 2014, with the retirement of Chief Richard Carlucci, he was named Acting Chief, until his permanent promotion in September of this year. Doug is committed to the Safety and Emission Inspection Program and looks forward to working with station owners and inspectors to improve and advance the program.



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October 1, 2014



### Finding causes for DTC P0420:

*"The challenge is to determine whether the cause is a bad catalytic converter or another reason that is causing this monitor to activate"*



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## The Technician's Bench

### ***A Little Detective Work May Be Needed To Find Causes of DTC Catalytic Efficiency Code – P0420***



Data from OBDII tests indicate that vehicles failing for the Diagnostic Trouble Code (DTC) P0420 Catalytic Efficiency Below Threshold (Bank 1) are not passing retests at a higher rate than other DTC codes. The most common reason for these vehicles failing retests is that technicians may be automatically replacing the catalytic converters rather than performing a complete diagnostics to find the root of the problem.

To better understand the conditions that cause the trouble code to be present, it can be helpful to look at what the monitor is checking during vehicle operation. The vehicle's OBDII system monitors a catalyst's efficiency by comparing the switching activity of the upstream and downstream oxygen sensors in the exhaust. The upstream oxygen sensor in the exhaust manifold reflects the condition of exhaust gases as they exit the engine. The downstream oxygen sensor in or behind the catalytic converter reflects the condition of exhaust as it passes through the converter. If the catalyst monitor finds too much switching activity in the downstream O2 sensor after the converter is hot while the vehicle is being driven, it may set a P0420 code and turn the check engine light on.

So does this mean that the catalytic converter is no longer functioning properly? Not always, but the challenge is to determine whether the cause is a bad catalytic converter or another reason that is causing this monitor to activate. Some possible reasons for activating this code are as follows:

- ♦ Damaged pre-cat exhaust manifold/catalytic converter/ pre-cat exhaust pipe
- ♦ Oxygen sensor(s) not functioning properly
- ♦ High fuel pressure
- ♦ The engine coolant temperature sensor not working properly
- ♦ A cylinder misfiring

So where do you begin to narrow the cause of this code?

BEFORE you replace the converter, look at the following:

- ♦ **Exhaust System:** You should also inspect the exhaust system and converter for leaks. "False" air can enter the exhaust through leaks and upset the O2 sensor readings, causing them to read leaner than normal. Colorado State University developed an effective procedure for checking the efficiency of Catalytic Converters through the use of feed gases.
- ♦ **Modifications:** Verify that the vehicle's exhaust system meets OEM requirements. If modifications have been made, they could activate the catalytic converter efficiency codes.
- ♦ **Pre-cat Leaks:** Inspect the vehicle's exhaust system to verify that there are no pre-cat leaks. False air entering the exhaust through the pre-cat leaks can bias the O2 sensors.



## **The Technician's Bench: Detecting Causes of DTC P0420**

Continued from previous page

- ♦ **O2 Sensors:** If the downstream O2 sensor is bad (heater circuit not working, loose or corroded wiring connector, contaminated sensor element, etc.), the OBDII system should detect the fault and set an oxygen sensor code. The same goes for a bad upstream O2 sensor. In either case, the presence of an O2 sensor code could prevent the catalyst monitor from running and setting a false P0420 code.
- ♦ **Oxygen Sensors:** Verify the operation of each oxygen sensor(s) with a scan tool or software. If you see normal switching action in both sensors shortly after the engine is started, the O2 sensors are working properly. Look for the O2 sensor voltage switching back and forth between rich (>0.8 volts) and lean (< 0.3 volts).
- ♦ **Fuel Pressure:** High fuel pressure could be the cause of a DTC P0420 which causes the catalytic converter to load up with hydrocarbons. Check the fuel pressure at idle as well as under load to determine if the fuel pressure is within manufacturer specifications. Also check the fuel pressure regulator, injectors and O-rings for leaks.
- ♦ **Coolant Temperature:** If there is a bad coolant temperature sensor, the vehicle could remain in open loop. This would cause the catalytic converter to overload with hydrocarbons.
- ♦ **Cylinder Misfiring:** While you might expect a rich H02S in the case of an ignition-related misfire, there is also a large amount of unburned oxygen, since no combustion is taking place in the misfiring cylinder.

When approaching the diagnostics on a vehicle that has a P0420 code, narrowing down the causes is an important first step. Check to see if the vehicle has any Technical Service Bulletins related to this code. In some cases, a "re-flash" of the engine computer may be required if the vehicle has a history of being overly sensitive with the catalyst monitor.

## **Enforcement News**

### ***New Jersey: 4 Indicted for Inspection Fraud May Face Prison and Fines***

Three men who operate an auto inspection business in Paterson, NJ, have been indicted on charges that involve the use of OBD data simulators to generate false inspection results. The men, Christopher Alcantara, 29, of Paterson, owner of Five Stars Auto Inspection, and employees (and relatives) Mariano Alcantara, 52, and Lewis Alcantara-Sosa, 22, allegedly charged between \$80 to \$250 to install the simulators at the private inspection facility. The vehicles were also taken to central inspection facilities in Lodi or Paramus. Gary Davis, 62, a limousine operator who allegedly paid the Alcantaras to obtain passing results, was also indicted. If found guilty, the four defendants face between 5 and 10 years in state prison and a fine of up to \$150,000 for conspiracy, mandatory parole for computer theft, and 3 to 5 years in state prison and a fine of up to \$15,000 for violating the Air Pollution Control Act. *NorthJersey.com*; 10/9/14. [Link to Article](#)

October 1, 2014



State of Rhode Island  
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October 1, 2014

**US EPA:**

***"Tier 3 sets new vehicle emissions standards and lowers the sulfur content of gasoline."***



## From the Department of Environmental Management (DEM)

### ***EPA Sets Tier 3 Motor Vehicle Emission and Fuel Standards***

The U.S. Environmental Protection Agency (EPA) recently announced finalized emission standards for cars, trucks and gasoline that will significantly reduce harmful pollution and prevent thousands of premature deaths and illnesses, while also improving the efficiency of vehicles we drive. Starting in 2017, Tier 3 sets new vehicle emissions standards and lowers the sulfur content of gasoline, considering the vehicle and its fuel as an integrated system.

- ◆ The Tier 3 vehicle standards reduce both tailpipe and evaporative emissions from passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles.
- ◆ The Tier 3 gasoline sulfur standard will make emission control systems more effective for both existing and new vehicles, and will enable more stringent vehicle emission standards. Removing sulfur in gasoline enables vehicle emission control technologies to perform more efficiently. Lower sulfur gasoline also facilitates the development of some lower-cost technologies to improve fuel economy and reduce greenhouse gas (GHG) emissions, which reduces gasoline consumption and saves consumers money.
- ◆ The tailpipe standards include different phase-in schedules that vary by vehicle class but generally phase in between model years 2017 and 2025. In addition to the gradual phase-in schedules, other flexibilities include credits for early compliance and the ability to offset some higher-emitting vehicles with extra-clean models.

#### **Benefits of the Tier 3 Fuel Quality**

These Tier 3 standards will address public health issues that exist currently and are projected to continue in the future.

- ◆ Over 149 million Americans are currently experiencing unhealthy levels of air pollution which are linked with adverse health impacts such as hospital admissions, emergency room visits, and premature mortality. Motor vehicles are a particularly important source of exposure to air pollution, especially in urban areas.
- ◆ The vehicle emission standards combined with the reduction of gasoline sulfur content will significantly reduce motor vehicle emissions, including nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOC), direct particulate matter (PM<sub>2.5</sub>), carbon monoxide (CO) and air toxics.
- ◆ Under the final Tier 3 program, federal gasoline will not contain more than 10 parts per million (ppm) of sulfur on an annual average basis by January 1, 2017. The Tier 3 gasoline sulfur standards are similar to levels already being achieved in California, Europe, Japan, South Korea, and several other countries.

***Continued on next page***

## **From the DEM: EPA Sets Tier 3 Motor Vehicle Emission and Fuel Standards**

Continued from previous page

- ♦ Emission Reductions from the Tier 3 program will lead to immediate air quality improvements that are critically important for states to attain and maintain the existing health based National Ambient Air Quality Standard (NAAQA). In the absence of additional controls such as the Tier 3 standards, many areas will continue to have air pollution levels that exceed the NAAQS in the future.

In addition, the final standards will work together with California's clean cars and fuels program to create a harmonized nationwide vehicle emissions program that enables automakers to sell the same vehicles in all 50 states. The standards will be implemented over the same timeframe as the next phase of EPA's national program to reduce greenhouse gas (GHG) emissions from cars and light trucks beginning with model year 2017 vehicles.\*

\*EPA-420-F-14-009, March 2014

For more information about EPA's Tier 3 program, please visit:

<http://www.epa.gov/otaq/tier3.htm>

October 1, 2014



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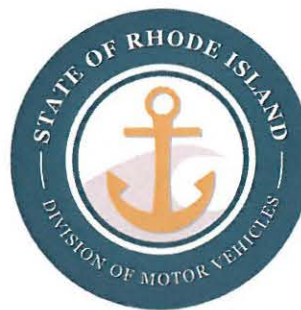
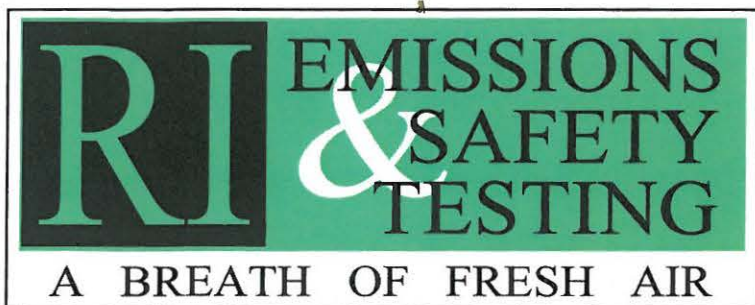


**State of Rhode Island  
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## From the DMV

### *Division of Motor Vehicles Safety and Emission Control Board continues regularly scheduled hearings*

#### **Five stations notified of November 6, 2014 hearing**

The Safety and Emission Control Board of the Division of Motor Vehicles (DMV) is a three-member panel charged with hearing cases of potential infractions of RI Safety and Emission Inspection regulations and suspected fraudulent emissions inspections. The Board meets as needed to weigh the evidence compiled by DMV staff.



The Board members include representatives from: the Division of Motor Vehicles, the Rhode Island State Police, and the Department of Environmental Management (DEM).

Each member brings a perspective from each agency.

The responsible party from each station is required to attend, as is any inspector involved in a suspected fraudulent or improper inspection. Testimony is taken under oath, and any party may choose to be represented by counsel. The Board weighs the evidence obtained and listens to testimony offered by the station's responsible party and inspectors. The Board carefully reviews and analyzes the evidence presented during the hearing. The Board votes on what penalties, if any, to levy. Penalties range from suspension to revocation of station and or inspector licenses and fines of up to \$1,000 for each offense.

The Department of Motor Vehicles issued orders for 5 stations and 8 inspectors to appear at the November 6, 2014 hearing. At that hearing, the Board carefully deliberated the evidence and testimony and issued the following:

- Two stations were issued thirty day suspensions
- One inspector was issued a 30 day suspension
- One inspector was issued a 180 day suspension
- \$2500.00 in fines were imposed.

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December 2014

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**OPUS**  
INSPECTION



December 2014

## Station Spotlight

**Joe Cunha:**

***"Inspections help your business because they tie you to your customer base."***

### ***Station Spotlight: Farmer's son has Midas touch***

#### **Featured Station: Midas of North Providence**

1640 Mineral Springs Ave., North Providence, RI

#### ***Joe Cunha, Owner-Operator***

Joe Cunha has been in the automotive service industry for nearly thirty years. He grew up on a farm where he learned how to fix the equipment his parents used. This led to a lifelong interest in fixing automobiles. Joe's education included attending Rehoboth Dighton Regional Vocational Technical High School in Massachusetts.

He purchased the Midas franchise three years ago. Joe felt that participating in the RI Emissions & Safety Testing Program would help his business, so the franchise has been an inspection station since the first day he opened. He has three ASE L1 Techs on staff, including himself. In addition to being an inspection station, Midas of North Providence is also a certified emission repair facility.

"Inspections help your business because they tie you to your customer base," Joe says. "The customers get to know you as the one and only stop they need for all of their automotive needs. You can take care of one hundred percent of their automotive needs."

He has good advice for stations who might be new to the program.

"Do inspections the right way," he says. "It always helps to explain things to the customer."

Joe bought an electronic tint meter that digitally displays the tint level. This meter answers customer questions and eliminates many concerns about this subject. It shows that Joe and his inspectors are not being subjective but are following RI regulations.

Though Joe's experience in the program is a positive one, he admits that there are some challenges.

"Stations performing improper inspections are the biggest challenge," he says. "It is very frustrating to fail a car for emissions and see that same vehicle with a passing sticker that same day. This not only hurts the program, it hurts my business. That customer won't come back to my station."

We're proud to have seasoned auto service business owner/operators like Joe Cunha in the RI Emissions & Safety Testing Program.



Owner/operator Joe Cunha stands ready to greet customers at Midas of North Providence along with tech Rick Quirico.



## Program News

December 2014

### *2015 Stickers available for pick up at Opus office*

The new RI Emission & Safety Testing 2015 stickers are available for pick up at the Opus Inspection office at 114 Minnesota Ave., in Warwick, RI. 2015 stickers are yellow (see photo) and self-adhesive. **All stations must pick up the new stickers before January 1, 2015 to avoid any interruption in testing.** The system's software will prevent using the new stickers before 2015 and will also prevent you using 2014 stickers after December 31, 2014. The system software will lockout testing after 12/31/2014 until the new stickers have been loaded. Remember to keep all unused stickers until picked up by an Opus Auditor.



**Please remember:** Always keep your stickers in a secure storage place. The RI Inspection sticker is an official certificate of compliance of the motor vehicle inspection program and as such is in and of itself a legal document.



State of Rhode Island  
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**FYI...**

### *Opus Inspection Holiday Schedule*

The Opus Inspection office in Warwick, RI will be closed for the holidays on the following dates:

- Thursday December 25, 2014
- Friday December 26, 2014
- Thursday January 1, 2015



**OPUS  
INSPECTION**

December 2014



### Evaporative Emission Control Systems:

*"The EVAP system has undergone many changes since its introduction in the late 1960s and early 1970s."*



**OPUS**  
INSPECTION

## The Technician's Bench

### Evaporative Emission Control Systems

By Mike Isabella

Assistant Professor, New England Institute of Technology

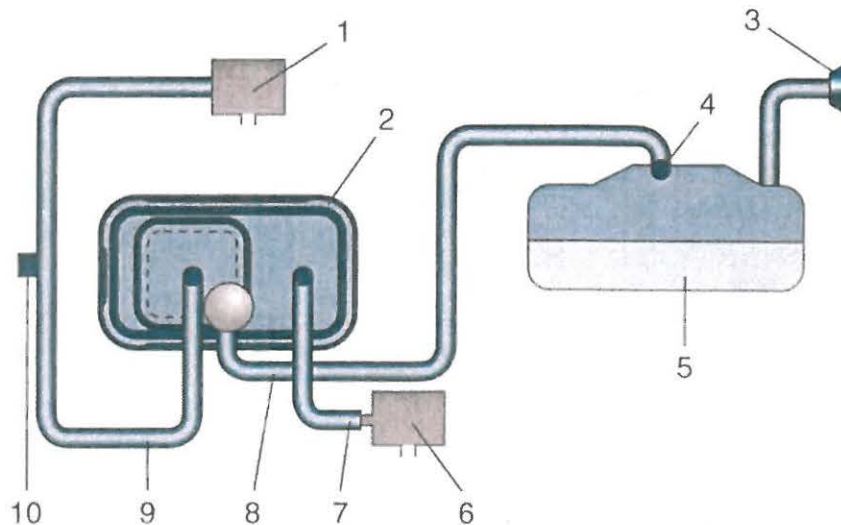
The purpose of the Evaporative Emission Control System, known in the automotive industry as EVAP, is to trap and hold gasoline vapors, volatile organic compounds or VOC's, that would otherwise escape into the atmosphere. Instead, these vapors are now routed into a charcoal canister where they then travel to the intake airflow so they are burned in the engine.

Prior to the introduction of the EVAP system, gasoline fumes, known as hydrocarbons or HC, were simply vented into the atmosphere. These fumes are a significant contributor to smog, a major problem especially in urban areas. Prolonged exposure to HC emissions can lead to asthma, cancer, as well as liver and lung disease.

The EVAP system has undergone many changes since its introduction in the late 1960s and early 1970s. The system used today is called an "Enhanced EVAP" system. Modern systems not only collect and route gasoline vapors to the engine's intake manifold for burning, but also checks purge flow from the charcoal canister to the engine, and performs a leak check of the entire EVAP system through the EVAP monitor.

A typical EVAP system contains the following components:

Evaporative System Components



Purge valve (1); Charcoal canister (2); Fuel tank cap (3); Anti-rollover valve (4); Fuel tank (5); Vent valve (6); Vapor lines (7, 8, 9); EVAP test port (10).

In addition, one of the following may be used on models with "Enhanced EVAP Testing" for leak checks:

- FTP (fuel tank pressure sensor)
- LDP (leak detection pump)
- NVLD (natural vacuum leak detection)





The vapor located hood or

*The EVAP test port, if used, is normally located in the engine bay. Be careful! The Schrader valve is a left-hand thread!*

canister is under the underneath

the vehicle and is filled with activated charcoal granules that can hold up to one third of their own weight in fuel vapors. A vent line connects the canister to the fuel tank and another line connects the canister to the purge solenoid. Activated charcoal is an effective vapor trap because of its great surface area. Typical canisters hold either 300 or 625 grams of charcoal with a surface area equivalent to 80 or 165 football fields. Absorption attaches the fuel vapor molecules to the carbon surface. This attaching force is not strong, so the system purges the vapor molecules quite simply by sending a fresh airflow through the charcoal canister. If the canister becomes saturated with liquid fuel, it must be replaced.

The vent solenoid is a normally open (NO) valve that allows ambient air to enter the charcoal canister. As vapors are drawn from the canister into the engine, the volume of fuel vapors must be replaced with air so it doesn't develop a vacuum in the system and draw raw fuel into the engine.

The purge solenoid is a normally closed (NC) valve that sits between the charcoal canister and live manifold vacuum. The purpose of this valve is to control vapor flow from the canister to the engine.

The gasoline cap used with modern EVAP systems has a pressure-vacuum relief built into them. When pressure or vacuum exceeds the calibrated value, the valve opens to allow excess pressure to vent or allows air in to prevent tank damage.

The rollover valve prevents liquid fuel from spilling out of the tank should the vehicle be involved in an accident, causing the vehicle to roll.

Vapor lines on more recent applications are made of rigid plastic lines instead of the traditional rubber neoprene lines. This change was made to prevent fuel molecules from leaching through the rubber lines, allowing HC vapors into the atmosphere.

To expand upon the Evaporative Emission Control System, the next issue of *RI Emissions & Safety Testing* will discuss how the power train control module (PCM) checks and monitors vapor canister purge flow and detects leaks in the EVAP system.

*Mike Isabella is an Assistant Professor in New England Institute of Technology's Automotive Technology program. He is an ASE Certified Master Automobile Technician (CMAT) with L1 and F1 certifications. Mike is also a Rhode Island Certified Inspection Technician (CIT) and Certified Inspection Repair Technician (CIRT). He can be reached at [misabella@neit.edu](mailto:misabella@neit.edu).*

December 2014



State of Rhode Island  
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Opus Inspection  
Corporate Office

December 2014



**The EPA Annual Report provides basic statistics on the (I/M) Program for January through December of the previous year.**

## From the Department of Environmental Management (DEM)

### ***DEM submits EPA Annual Report Summary for RI***

The Environmental Protection Agency (EPA) requires the Department of Environmental Management (DEM) to submit an annual report to EPA by July of each year that provides basic statistics on the Inspection/Maintenance (I/M) Program for January through December of the previous year.

DMV and the Department of Motor Vehicles (DMV) are jointly responsible for the administration of the Rhode Island I/M Program. DMV is responsible for the operation of the program and DEM is responsible for the environmental aspects.

The data for the EPA Annual Report was submitted to DEM by Opus Inspection and DMV.

Opus Inspection's detailed reports consist of results from the vehicle inspection data that include initial test volume, first retests and subsequent retest volume by test type, model year vehicle type, failures of initial test, and percentage of total failures for light-duty vehicles, 25 years old and newer, up to 8,500 pounds (GVWR).

Once the data is submitted, it is organized and put into the report and submitted to EPA.

The following table is an example of one of the tables that was included in the 2013 EPA Annual Report. This table provides a breakdown for the number of initial test results for test types, the number of vehicles that passed and failed, and the percentage of the failure rate.

#### **Initial Test Results (2013)**

Because the I/M program for light-duty vehicles requires inspections on a two-

Tests	Total	Pass	Fail	% Fail
Initial OBD Tests	317,144	301,216	15,928	5.02%
Initial Transient Tests	12,830	11,935	895	6.98%
Initial Two Speed Idle Tests	7,722	5,765	1,957	25.34%
Initial OBD Diesel	1,262	1,240	22	1.74%
Initial Diesel Opacity	149	145	4	2.68%
Total Initial Tests	339,107	320,301	18,806	5.55%

year cycle, these results correspond to approximately one-half of the total light-duty fleet.

There were 290 AIRS that participated in the I/M Program during 2013. There were 339,107 vehicles tested in 2013. The number of vehicles that failed the initial test was 18,806. This result is an overall initial failure rate of 6%.





## Enforcement News

December 2014

**OPUS  
INSPECTION**

### ***Vermont: Mechanic accused of stealing stickers, operating inspection ring***

Springfield mechanic Benjamin Millay, 29, allegedly stole approximately 30 inspection stickers from his former employer, the Springfield Auto Mart, and sold them to individuals whose cars would not have passed a legal inspection.

Millay pleaded not guilty to a single count of embezzlement. He was released to await trial after providing police with a written confession. State inspectors are now busy tracking down those vehicles that may have the illegal stickers. *WCAX.com* (updated 9/5/14)

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For program information  
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[WWW.RIINSPECTION.ORG](http://WWW.RIINSPECTION.ORG)



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